



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
**75 Hawthorne Street**  
**San Francisco, CA 94105**

January 16, 2018

Derek J. Robinson, BRAC Environmental Coordinator  
Department of the Navy  
Base Realignment and Closure Program Management Office West  
33000 Nixie Way, Building 50  
San Diego, CA 92147

Re: EPA Comments on the Draft Remedial Action Completion Report, Hot Spot Delineation and Excavation and Nearshore Slurry Wall Installation Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California, November 2017

Dear Mr. Robinson:

Attached are EPA's comments on the *Draft Remedial Action Completion Report, Hot Spot Delineation and Excavation and Nearshore Slurry Wall Installation Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California*, dated November 2017.

If you have any questions, please do not hesitate to call me at (415) 972-3681 or e-mail me at [huang.judy@epa.gov](mailto:huang.judy@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Judy C. Huang".

Judy C. Huang, P.E.  
Remedial Project Manager

cc:

Nina Bacey, DTSC (via email)  
Tina Ures, RWQCB (via email)  
Amy Brownell, SFDPH (via email)  
Hamide Kayaci, US Navy (via email)  
Danielle Janda, US Navy (via email)

**Review of the Draft Remedial Action Completion Report,  
Hot Spot Delineation and Excavation and Nearshore Slurry Wall Installation,  
Remedial Action, Parcel E-2, Hunters Point Naval Shipyard,  
San Francisco, California, November 2017**

**GENERAL COMMENTS**

1. The Draft Remedial Action Completion Report, Hot Spot Delineation and Excavation and Nearshore Slurry Wall Installation, Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California, dated November 2017 (the RACR) does not discuss the results of the exploratory borings drilled in 2014 to determine the depth of Bay Mud along the proposed slurry wall trench. While Section 6.1 (Exploratory Borings) indicates that exploratory boring logs are included in Appendix M (Boring Logs) and the depth of the Bay Mud layer is shown on Figure 10 (Nearshore Slurry Wall As-Built), text discussing the findings of the exploratory borings is not provided. This is of particular note given the variability in the approximate top of bay mud strata per boring logs dated November 2014 shown on Figure 10 and provided in Appendix M compared to the approximate depth to Bay Mud per Engineering/Remediation Resources Group, Inc. (ERRG) Drawing C6, also shown on Figure 10. Please revise the RACR to discuss the findings of the exploratory borings and specifically address the variation of the depth to the Bay Mud layer from the boring logs to the ERRG Drawing C6.
2. The profile view on Figure 10 (Nearshore Slurry Wall As-Built) includes the Top of Slurry Wall Key and the As-Built Bottom of Slurry Wall per the Geo-Solutions Excavation Report, dated March 2016; however, this document is not discussed elsewhere in the RACR or included in Section 13.0 (References). Please revise the RACR to provide the Geo-Solutions Excavation Report, dated March 2016 (Excavation Report) as an appendix. In addition, please revise the RACR to discuss the content of the Excavation Report.
3. A tabular summary that lists major events for the Remedial Action (RA) and associated days of those events, starting with the Record of Decision (ROD) signature should be provided as indicated by Exhibit 2-5 Recommended Remedial Action Report Contents from the EPA's Close Out Procedures for National Priorities List Sites dated May 2011. While a construction schedule table (Table 1, Construction Schedule for Durable Covers Remedial Action) has been provided, an additional table should be included that lists significant milestones and dates. Example milestones include the ROD signature, remedial design submittal/approval, decision document modifications, etc. Please revise the RACR to include a table with these details.
4. Several discrepancies exist between the tables and figures. It does not appear that all of the exceedances of cleanup criteria in confirmation samples were included in Table 6, Parcel E-2 Confirmation Sample Analytical Results Exceeding Hot Spot Goals. For example, Table 5 indicates that 07-E2-T5EX21-518 had a sample result exceeding screening criteria, but this result (tetrachloroethene [PCE] at 1.5 mg/kg) is not included in Table 6. While it appears that this is a duplicate sample result, the concentration is higher

than the primary sample result. Also, the exceedances of cleanup criteria are not designated by bold text in Table 5, Parcel E-2 Hot Spot Confirmation Sample Analytical Results. All exceedances of cleanup criteria that resulted in the need for over-excavation should either be bolded in Table 5 or included in Table 6. In addition, some locations with exceedances are not indicated as exceedances on the figures. For example, concentrations at T5EX1-551 location 551 exceeded cleanup goals at two depths according to Table 6, indicating that this location should be depicted with a red icon, but it is indicated with a green icon on Figure 4, Overview of Hot Spots in Parcel E-2 and Figure 5 (Hot Spots in Parcel D-2, Panhandle Area South). Please revise the RACR tables and figures to clearly and consistently indicate the location of hot spots and ensure that all exceedances are either included in Table 6 or bolded in Table 5.

5. Section 6.6 (Slurry Wall Installation) indicates that the excavator was fitted with a 24-inch-wide bucket to excavate a minimum 24-inch-wide continuous trench; however, the width of the slurry wall and the impact of the width on permeability is not discussed. It should be noted that the RACR does not include an as-built drawing showing the width of the slurry wall and that Section 6.2.1 (Trench Excavation Equipment) states, "This equipment was capable of excavating the required nominal width of the CB [cement-bentonite] wall trench in a sing pass of the bucket." While Photograph Nos. E2-417 and E2-436 show there is some variation at the top of the slurry wall trench, there does not appear to be significant variation in the slurry wall trench width based on Photograph Nos. E2-437 and E2-438. Please revise the RACR to discuss the width of the slurry wall.
6. The RACR includes numerous placeholders and presumed completion dates. For example, Section 7.1 (Soil and Debris) states, "Transportation of waste off site began on June 22, 2016, and was completed on January XX, 2018." Similarly, Section 8.2.2 (Final Acceptance Inspection) states, "The final acceptance inspection included verification that punch-list items identified during the pre-final acceptance inspections were completed as discussed. These punch-list items were verified as complete and acceptable by the ROICC [Resident Officer in Charge of Construction] on February 27, 2018;" however, this date is approximately three months after the RACR was issued (i.e., November 2017). Further, Section 8.3 (Demobilization) states, "Demobilization was completed on March 1, 2018, and an MOU [Memorandum of Understanding] transferring radiological control of RSY-4 to Amec Foster Wheeler Environmental and Infrastructure, Inc. (AMEC) was signed on March 2, 2018." Please revise the RACR to ensure all placeholders and presumed completion dates are addressed.
7. Additional detail is required to ensure the slurry wall was keyed a minimum of two feet into the Bay Mud aquitard. According to Section 6.0 (Nearshore Slurry Wall Installation) and Figure 10 (Nearshore Slurry Wall As-Built), exploratory borings were installed along the entire alignment of the slurry wall at maximum intervals of 50 linear feet (LF) to determine the top of the Bay Mud aquitard. However, the profile view on Figure 10 does not include the specific exploratory boring log depths. Similarly, Section 6.6 (Slurry Wall Installation) indicates that the depth of the slurry wall was confirmed by identifying key material in the field during trenching at a maximum interval of 20 LF and states that, "Measurements of the trench and slurry depths were made at least every 10 LF, at a minimum frequency of one reading per hour." However, these confirmation

depths are not specifically shown on the profile view of Figure 10. In addition, it is unclear how the depth of the slurry wall between the confirmation samples was established or whether there were any areas that were excavated an additional two or more feet due to visual identification of a sand lens. To ensure that the information presented in Figure 10 is representative, please revise the RACR to include a profile view figure, which includes the exploratory boring locations and confirmation sampling depths. In addition, please revise the RACR to clarify how the depth of the slurry wall between the confirmation samples was established and if any areas that were excavated an additional two or more feet due to visual identification of a sand lens.

## **SPECIFIC COMMENTS**

1. **Section 4.7, Initial Characterization Summary Page 34 through 35 and Table 2, Hot Spot Excavations:** Excavation Identification (ID) Number (No.) T2-EX-3E is not discussed in Section 4.7 or the text in general but is included in Table 2 and figures. Please revise Section 4.7 to discuss the status of excavation T2-EX-3E.
2. **Section 4.7, Initial Characterization Summary Page 34 through 35 and Table 2, Hot Spot Excavations:** There are discrepancies between the text in Section 4.7 and Table 2. For example, Section 4.7 indicates that excavation T5-EX-2-1 remained unchanged from those previously proposed but Table 2 indicates that this hotspot was over excavated by 348 bank cubic yards (bcy). Similarly, Section 4.7 indicates that excavation T1-EX-1A-1 volumes were reduced from those originally proposed but Table 2 indicates that this hotspot was over excavated by 81 bcy. Please resolve the discrepancies between Section 4.7 and Table 2.
3. **Section 5.4, Screening for Organic Compounds in Soil, Page 47:** The text should describe the original location within T5-EX-1 and quantity of soils that were detected to produce organic vapors in excess of 50 parts per million by volume (ppmv). Please revise the text to describe the original location(s) of soil and quantity of soil stockpiled that exceeded a soil vapor concentration of 50 ppmv.
4. **Section 5.8, Overexcavation Procedures, Page 52:** It is unclear if sidewall samples were collected to evaluate whether the lateral extent of contamination was remediated at hotspot locations requiring overexcavation of the excavation floor. Please revise the text to clarify whether sidewall samples were collected when the excavation was deepened due to exceedences in floor confirmation samples.
5. **Section 6.0, Nearshore Slurry Wall Installation, Page 59:** The RACR does not indicate if the final slurry mix design was reviewed by the regulatory agencies prior to implementation at Parcel E-2. Based on Section 6.0 (Nearshore Slurry Wall Installation), "The evaluation of results was presented to the Navy in the final slurry mix design submittal on January 6, 2015." Please revise Section 6.0 to clarify whether the final slurry mix design was reviewed by the regulatory agencies prior to implementation at Parcel E-2.

6. **Section 8.1, Final “As-Built” Land Survey, Page 80:** Section 8.1 indicates that a final land survey was completed to document the final topography of Parcel E-2; however, final as-built land surveys are not provided in the RACR. Please revise the RACR to include a drawing depicting the as-built land surveys.
7. **Table 5, Parcel E-2 Hot Spot Confirmation Sample Analytical Results:** Table 5 should include the Hot Spot Goal for all exceedences. For example, a goal should be listed for PCE for sample location T5EX21-530 and for 07-E2-T5EX21-518. Please revise Table 5 to include Hot Spot Goals for all exceedences.

#### **MINOR COMMENTS**

1. **Figure 7, Hot Spots in Parcel E-2 Shoreline Area:** The green icon indicating “Sample Results below Screening Criteria” is missing from the legend. Please ensure this icon is included.
2. **Appendix F, Page 2905:** The date is missing from this Surface Water Column Monitoring Log. Please revise the monitoring log to include the date.
3. **Appendix K, Field Change Requests:** Some of the Field Change Request (FCR) forms are not signed. Please ensure that the signed FCRs are included in the final Remedial Action Completion Report.

